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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,780	02/09/2004	Cancheepuram V. Srividya	MI22-2498	7887
21567	7590	07/02/2004	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			LEE, CALVIN	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/773,780

Applicant(s)

SRIVIDYA et al.

Examiner

Lee, Calvin

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 108-116 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 108-116 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/9/04 & 4/21/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

**OFFICE ACTION*****Claim Rejections - 35 U.S.C. § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 108-110 and 113-116 are rejected under 35 U.S.C. 102(e) as being anticipated by *Yates et al* (US 2003/0203508).

*Yates et al* discloses a capacitor construction incorporated into DRAM, comprising features:

- a region (i.e., the sidewall of a trench 26” in Fig. 3C) extending into an insulative material 22” of BPSG boronphosphosilicate glass [¶ 0026], which comprises a periphery around the region
- agglomerates comprising one or more noble metals (e.g., Pt, etc.) along the periphery [¶ 0050]
- a first conductive layer 40” within the region and extending over agglomerates
- a dielectric layer 48” over the first conductive layer
- a second conductive layer 50” over the dielectric layer and being capacitively coupled with the first conductive layer.

***Claim Rejections - 35 U.S.C. § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 111 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yates et al*, as applied to claim 108, in view of *Callegari et al* (US 2004/0071879).

*Yates et al* is silent about the insulative material comprises BPSG having one or both of silicon dioxide and aluminum oxide thereover. *Callegari et al* teaches one or both of silicon dioxide and aluminum oxide 37 overlying an interlayer 83 of BPSG [Fig. 28 and page 8].

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It would have been obvious to one having ordinary skill in the art to have modified the capacitor construction of *Yates et al* by utilizing a barrier structure for the purpose of indiffusing subsequent electrode metal ions into the surrounding capacitor recess.

5. Claim 112 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yates et al*, as applied to claim 108, in view of *Tsai et al* (US 6,022,775).

*Yates et al* is silent about cavities extending into the periphery between the agglomerates, and wherein the first conductive layer extends into the cavities. *Tsai et al* teaches not only concerns the same problem of electrode surface area (claimed by *Yates et al*) but also cavities 25 extending into the periphery between agglomerates 22 [Fig. 5], and wherein a first conductive layer 18 extends into the cavities [col. 3].

It would have been obvious to one having ordinary skill in the art to have modified the capacitor construction of *Yates et al* by utilizing cavities around a first electrode layer for the purpose of further enhancing/increasing a surface area of the first electrode layer [Abstract].

***Contact Information***

6. Any inquiry concerning this communication from the Examiner should be directed to *Calvin Lee* at (571) 272-1896, Monday to Thursday, from 7 to 5 (ET). If attempts to reach the examiner by telephone are unsuccessful, Art Unit 2825's Supervisory Patent Examiner *Matthew Smith* whose telephone number is (571) 272-1907.

Any inquiry relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0596. The fax phones are (703) 872-9318 for regular communications and (703) 872-9319 for After-Final communications.



June 24, 2004



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